Power PCB Relay T9E

- **1 pole 30A, 1 formA(NO) or 1 formC(CO)**
- **High breaking capacity 7500 VA**
- **PCB and PCB/quick connect terminals**
- **UL class F insulation as standard**
- **Ambient temperature up to 105°C**
- **Plastic materials according to IEC60335-1**



Typical applications
HVAC, power supplies, domestic appliances, measurement and control.

Approvals

VDE 40027903, UL E58304
Technical data of approved types on request.

Contact Data

Contact arrangement	1 form A (NO)	1 form C (CO)
Rated voltage	240VAC	
Max. switching voltage	250VAC (VDE); 300VAC (UL)	
Rated current	30A	20A/10A
Limiting continuous current	30A	
Breaking capacity max.	7500VA	5000/2500VA
Contact material	AgSnOInO (AgCdO optional)	
Min. recommended contact load	1A, 5VDC or 12VAC	
Initial contact resistance	75 mΩ at 1A at 5VDC or 12VAC	
Frequency of operation, with/without load	6/120min^{-1}	
Operate/release time max., including bounce	15/15ms	

Contact ratings

Type	Contact	Load	Cycles
IEC 61810			
AgSnOInO, 1W coil			
1	NO	30A, 250VAC, cosφ=1, 60°C	20x10^3
1	NO	20A, 250VAC, cosφ=1, 85°C	100x10^3
2	NO	20A, 250VAC, cosφ=1, 70°C	100x10^3
1, 2	CO	20A / 10A, 250VAC, cosφ=1, 60°C	20x10^3
AgSnOInO, 900mW coil			
1	NO	17A, 250VAC, cosφ=1, 105°C	100x10^3
1	NO	20A, 250VAC, cosφ=1, 85°C	100x10^3
EN 60730-1			
AgSnOInO, 1W coil			
1	NO	12(12)A, 240VAC, 60°C	100x10^3
UL 508 1)			
AgSnOInO, 1W coil			
1, 2	NO	30A, 240VAC, general purpose, 25°C	100x10^3
AgSnOInO, 900mW coil			
1, 2	NO	TV-8, 125VAC, 25°C	25x10^3

1) Additional UL 508 ratings are available.

Mechanical endurance	10x10^6 ops.

Coil Data

Coil voltage range	6 to 110VDC
Max. coil power	110% of nominal
Max. coil temperature	155°C
Coil insulation system according UL	Class F

Coil Data (continued)

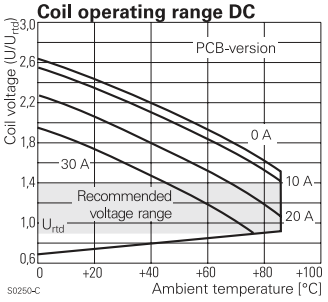
Coil versions, DC coil

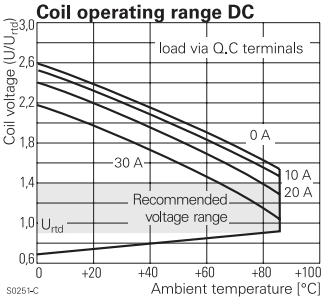
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power W
Code D (1W) coil					
6	6	4.5	0.6	36	1
9	9	6.75	0.9	81	1
12	12	9	1.2	144	1
18	18	13.5	1.8	324	1
22	22	16.5	2.2	484	1
24	24	18	2.4	576	1
48	48	36.2	4.8	2304	1
110	110	82.5	11	12100	1
Code L (900mW) coil					
6	6	4.5	0.6	40	.9
12	12	9	1.2	155	.9
18	18	13.5	1.8	380	.9
24	24	18	2.4	660	.9

All figures are given for coil without preenergization, at ambient temperature +23°C.

Insulation Data

Initial dielectric strength	
between open contacts	1500V$_{rms}$
between contact and coil	2500V$_{rms}$
Initial surge withstand voltage	
between contact and coil	6kV (1.2µs/50µs impulse wave)
Initial insulation resistance	
between insulated elements	1x10^{9}Ω
Clearance/creepage	
between contact and coil	≥3mm/4mm





Coil operating ranges shown above are for 1W coils.

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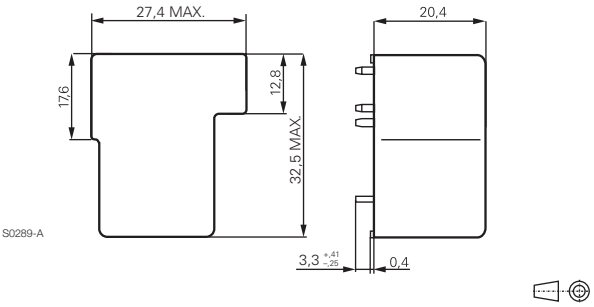
Power PCB Relay T9E (Continued)

Other Data	
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter	
Ambient temperature	
DC coil	-40ºC to 85ºC / 105°C
Category of environmental protection	
IEC 61810	RTII - flux proof (T9EV) RTIII - wash tight (T9ES)
Vibration resistance (functional)	1.5mm, 10-55 Hz
Shock resistance (functional)	10g for 11msec
Shock resistance (destructive)	100g

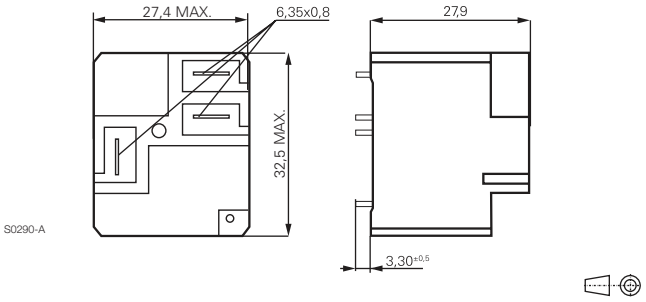
Other Data (Continued)	
Terminal type	PCB-tht and PCB-tht + quick connect
Weight	26g mounting code 1 33g mounting codes 2 and 5
Resistance to soldering heat THT	
IEC 60068-2-20	260°C
Packaging/unit	tray/50 pcs., box/250 pcs.

Dimensions

PCB version



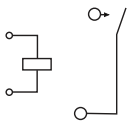
PCB/quick connect version



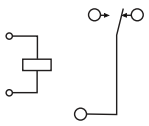
Terminal assignment

Bottom view on pins

1 form A



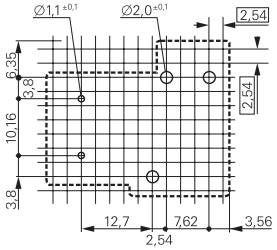
1 form C



PCB layout

Bottom view on pins

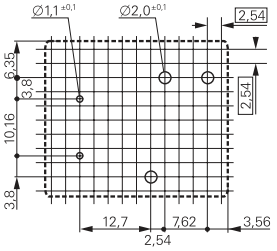
PCB version



Only necessary terminals are present on single throw models. Consequently, some holes will be unnecessary for single throw models.

S0261-AA

PCB/quick connect version



Only necessary terminals are present on single throw models. Consequently, some holes will be unnecessary for single throw models.

S0261-AH

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Power PCB Relay T9E (Continued)

Product code structure	Typical product code	T9E	S	1	D	1	4	-24

Type
T9E Power PCB relay T9E

Enclosure
S Wash-tight plastic case with knock off nib
V Flux-proof plastic case

Contact arrangement
1 1 form A (1 NO)
5 1 form C (1 CO)

Coil Input
D DC voltage, 1W
L DC voltage, 900mW

Mounting and termination
1 PCB mounting; PCB terminals for coil and contacts
2 PCB mounting; PCB terminals for coil and contacts; 6.35mm (.250in) QC for contacts

Contact material
4 AgSnOInO
2 AgCdO – optionally available. Contact Product Engineering for availbaility and ratings.

Coil voltage
Coil code: please refer to coil versions table

Product Code	Enclosure	Mounting	Contact material	Contacts	Coil version	Coil voltage	Part number
T9ES1L14-18	wash tight	PCB terminals	AgSnOInO	1 form A, 1 NO	900mW	18VDC	1-2027234-8
T9ES1D14-12					1W	12VDC	2027234-2
T9ES1D14-24						24VDC	2027234-7
T9ES1D12-12			AgCdO			12VDC	1-2027234-0
T9ES1D24-12		PCB + quick connect	AgSnOInO			12VDC	2027234-8
T9ES1D22-12			AgCdO			12VDC	1-2027243-3
T9ES5D14-12		PCB terminals	AgSnOInO	1 form C, 1 CO		12VDC	2027234-6
T9ES5D12-24			AgCdO			24VDC	2027234-4
T9ES5D24-12		PCB + quick connect	AgSnOInO			12VDC	2027234-9
T9EV1D14-22	flux proof	PCB terminals		1 form A, 1 NO		22VDC	2027234-5

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